

5.1.2 Transmitter Spectrum Analysis

5.1.2.1 Transmitted RF Output

The following tests were performed to record the transmitted RF spectrum from the KHDD-1000S/HF radar system. A Rhode & Schwarz FSP spectrum analyzer was used to record the frequency plots. The plot number, test description and comments for each measurement are outlined in the table below as well as the maximum result for the test if applicable.

KHDD-1000S/HF RF EMISSION MEASUREMENTS		
<i>Plot Figure Number</i>	<i>Test Description</i>	<i>Comments</i>
5.1.2.1-1	Emitted Spectrum, 800 nS	30dB down, 7.2 MHz BW
5.1.2.1-2	Emitted Spectrum, 800 nS	Side Lobes
5.1.2.1-3	Emitted Spectrum, 3000 nS	3 dB BW, 1.1 MHz
5.1.2.1-4	Emitted Spectrum, 3000 nS	Side Lobes
5.1.2.1-5	Emitted Spectrum, 3000 nS	30 dB down, 4.92 MHz BW
5.1.2.1-6	Emitted Spectrum, 3000 nS	50 dB down, 51.84 MHz
5.1.2.2-1	Spurious RF, 800 nS	20 MHz to 5 GHz, -66.99 @ 4.27 GHz
5.1.2.2-2	Spurious RF, 800 nS	5 GHz to 10 GHz, -58.56 @ 7.44 GHz
5.1.2.2-3	Spurious RF, 800 nS	10 GHz to 15 GHz, -62.83 @ 14.44 GHz
5.1.2.2-4	Spurious RF, 800 nS	15 GHz to 20 GHz, -62.29 @ 16.81 GHz
5.1.2.3-1	TX RF Leakage, 800 nS	20 MHz to 5 GHz, -42.93 @ 3.520 GHz
5.1.2.3-2	TX RF Leakage, 800 nS	5 GHz to 10 GHz, -67.97 @ 5.85 GHz
5.1.2.3-3	TX RF Leakage, 800 nS	10 GHz to 15 GHz, -62.18 @ 14.95 GHz
5.1.2.3-4	TX RF Leakage, 800 nS	15 GHz to 20 GHz, -61.95 @ 18.11 GHz



Ref 0 dBm *Att 10 dB *RBW 100 kHz Marker 1 [T1] -25.05 dBm
*VBW 100 kHz *SWT 20 s 3.519950000 GHz

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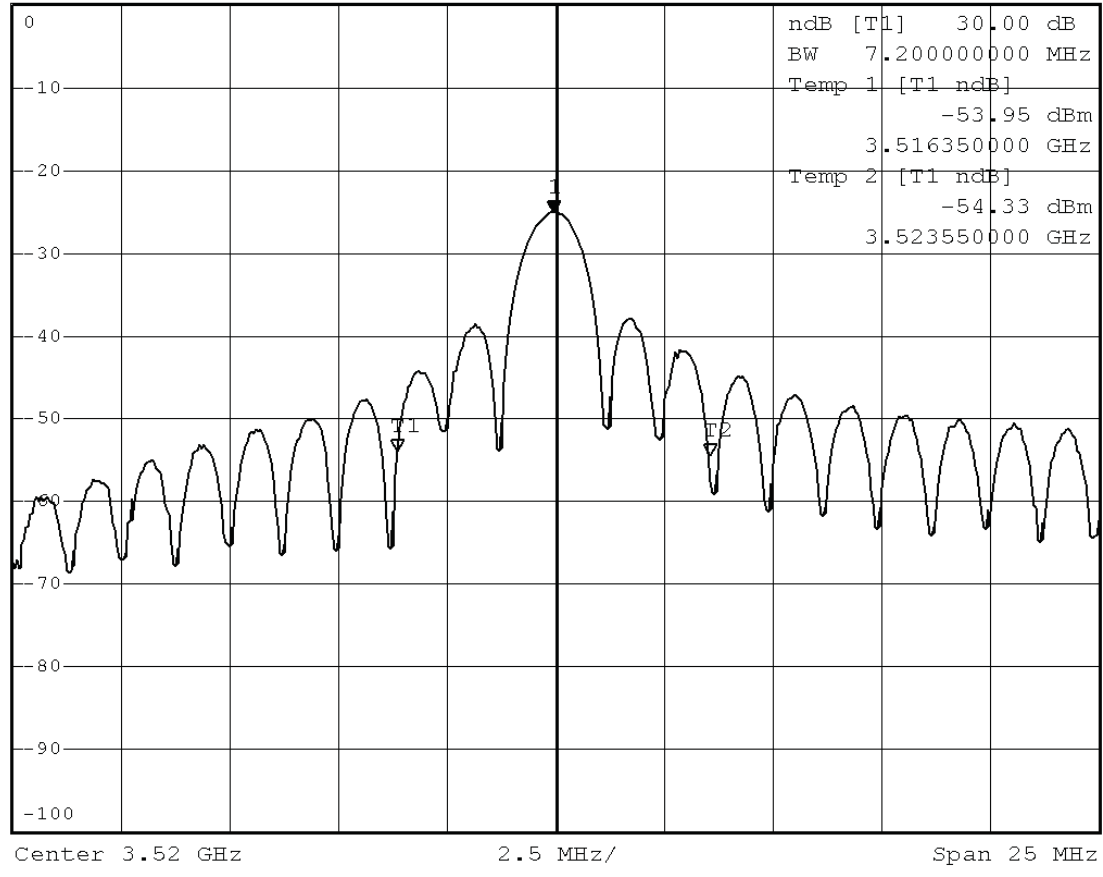


Figure 5.1.2.1-1: 800 nS pulse, Emitted Spectrum, 30 dB down – 7.2 MHz BW

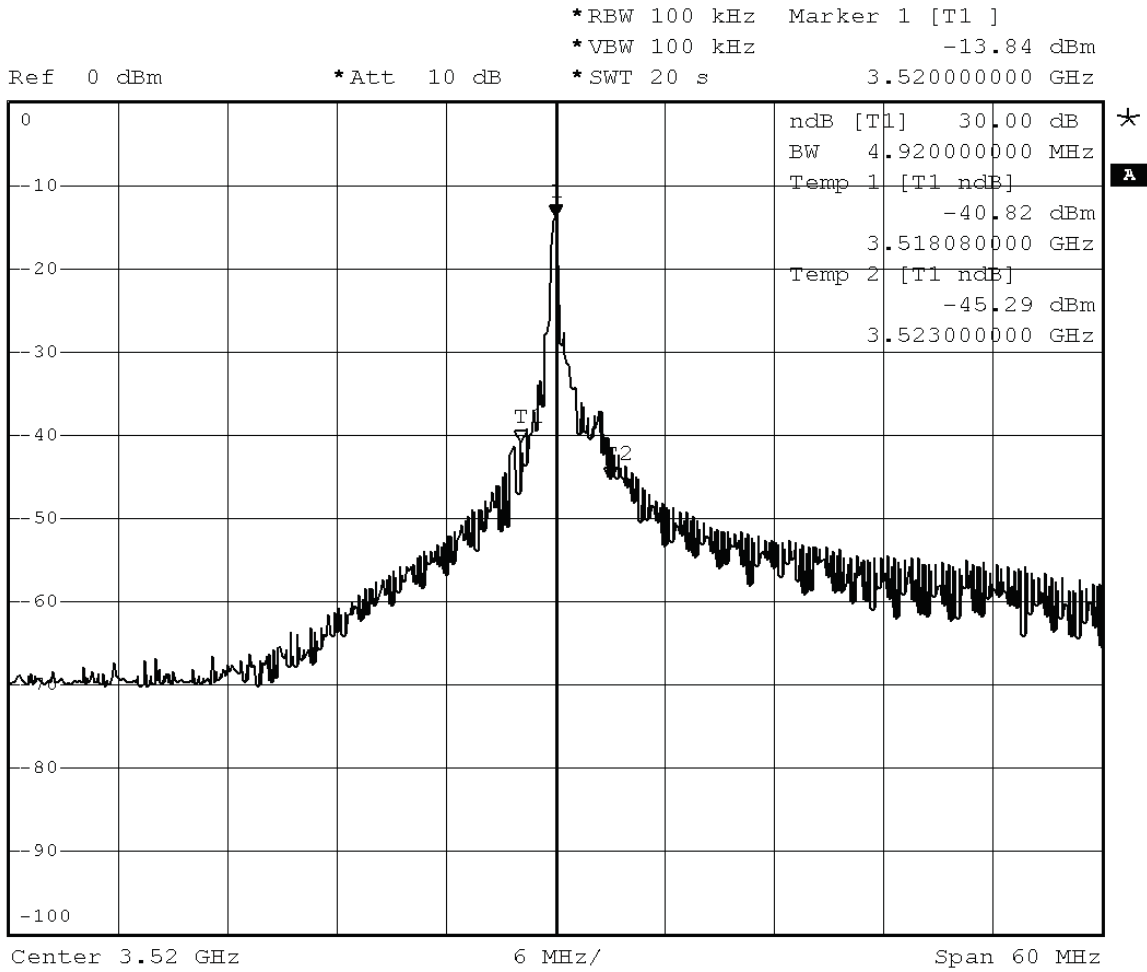


Figure 5.1.2.1-5: 3000 nS Pulse, Emitted Spectrum, 30dB down – 4.92 MHz BW



Ref 0 dBm *Att 10 dB *RBW 100 kHz Marker 1 [T1] -13.73 dBm
*VBW 100 kHz 3.520000000 GHz
*SWT 20 s

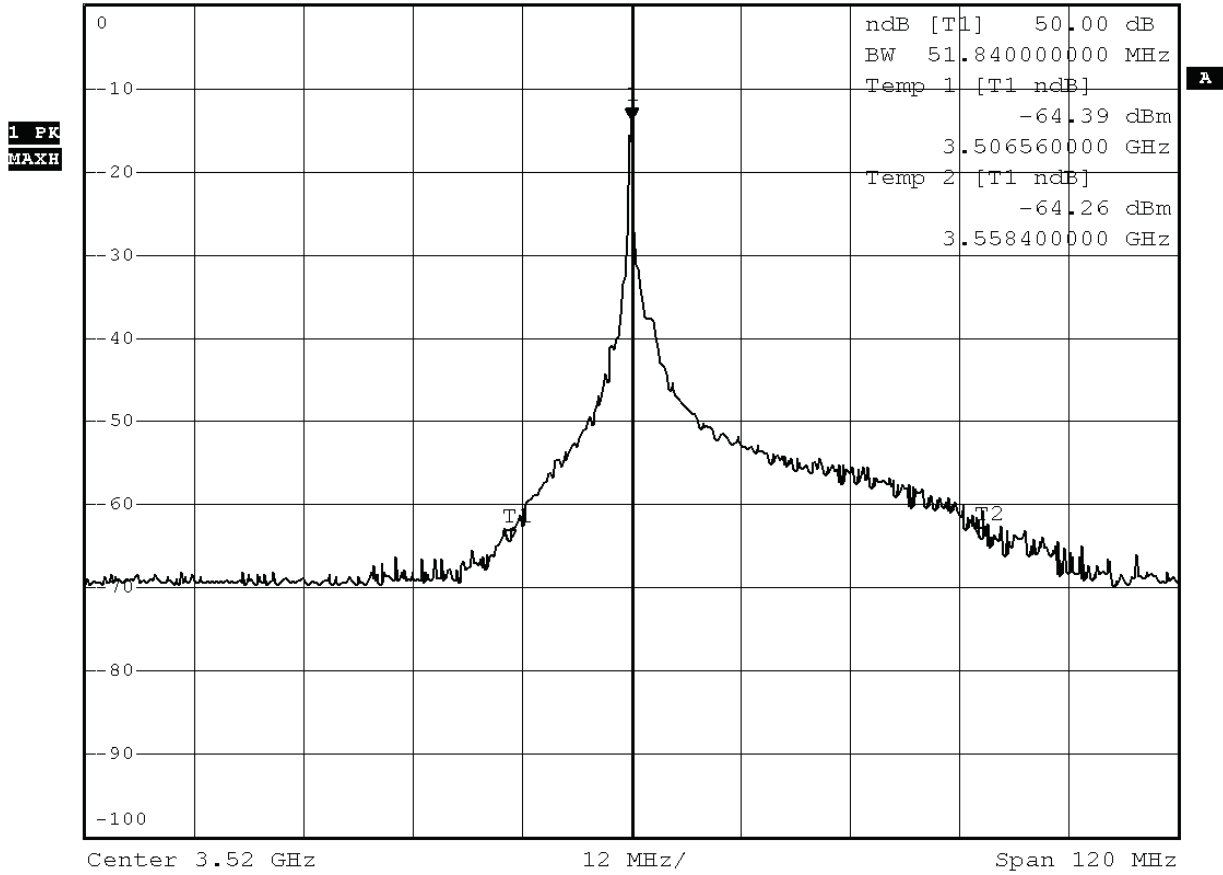


Figure 5.1.2.1-6: 3000 nS Pulse, Emitted Spectrum, 50dB down – 51.84 MHz BW

5.1.2.2 Spurious RF Output

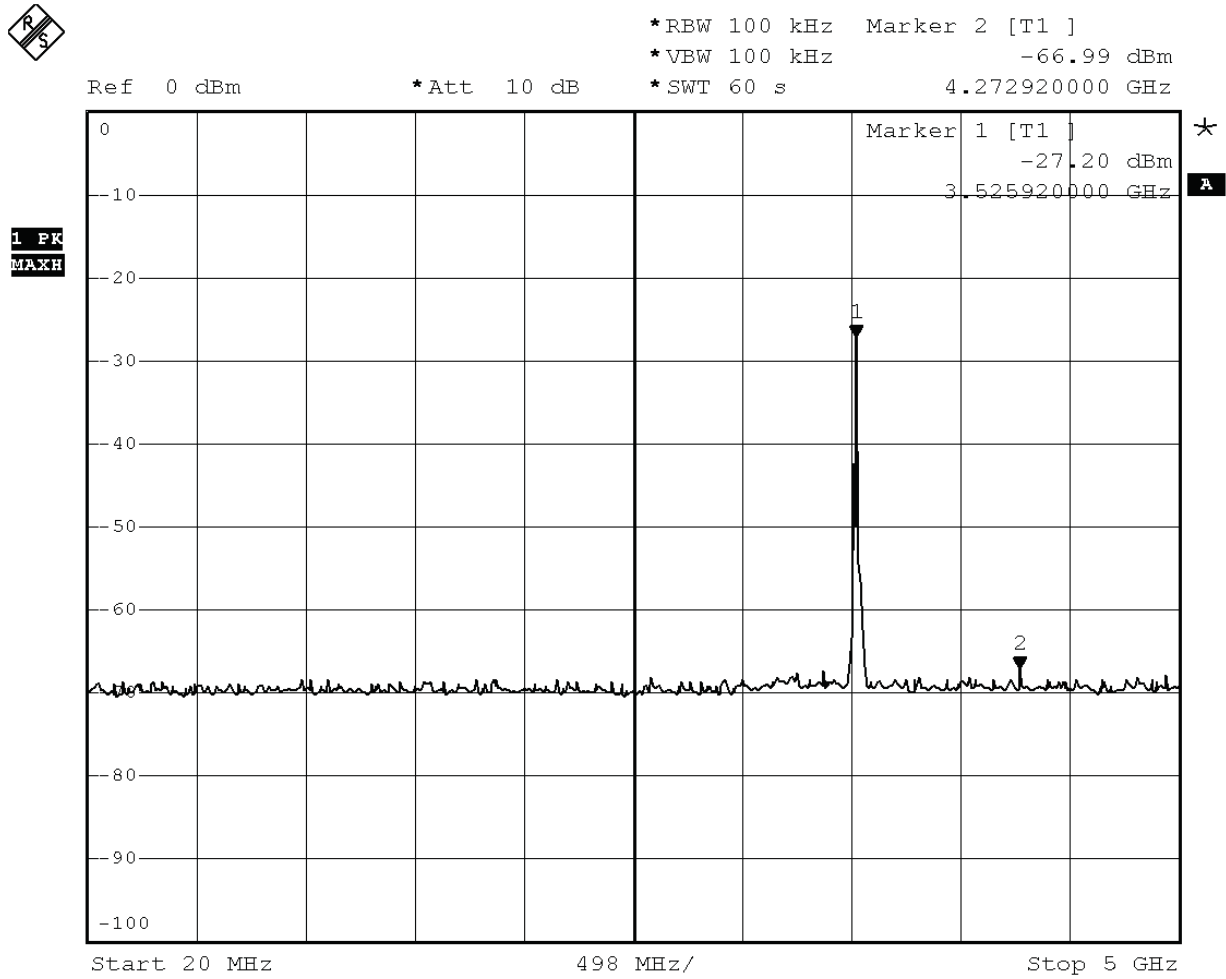


Figure 5.1.2.2-1: 800 nS Pulse, Spurious RF Output, 20 MHz to 5 GHz

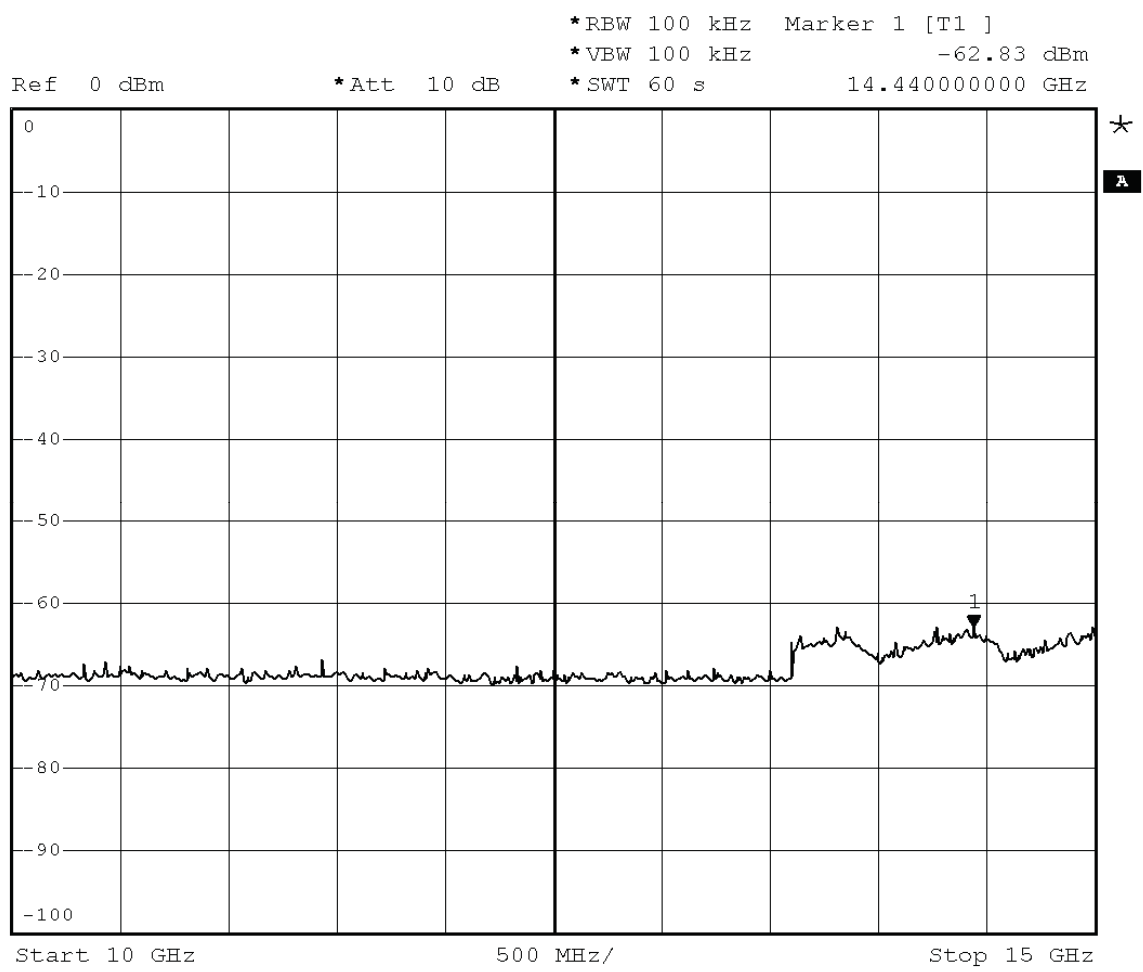


Figure 5.1.2.2-3: 800 nS Pulse, Spurious RF Output, 10 GHz to 15 GHz

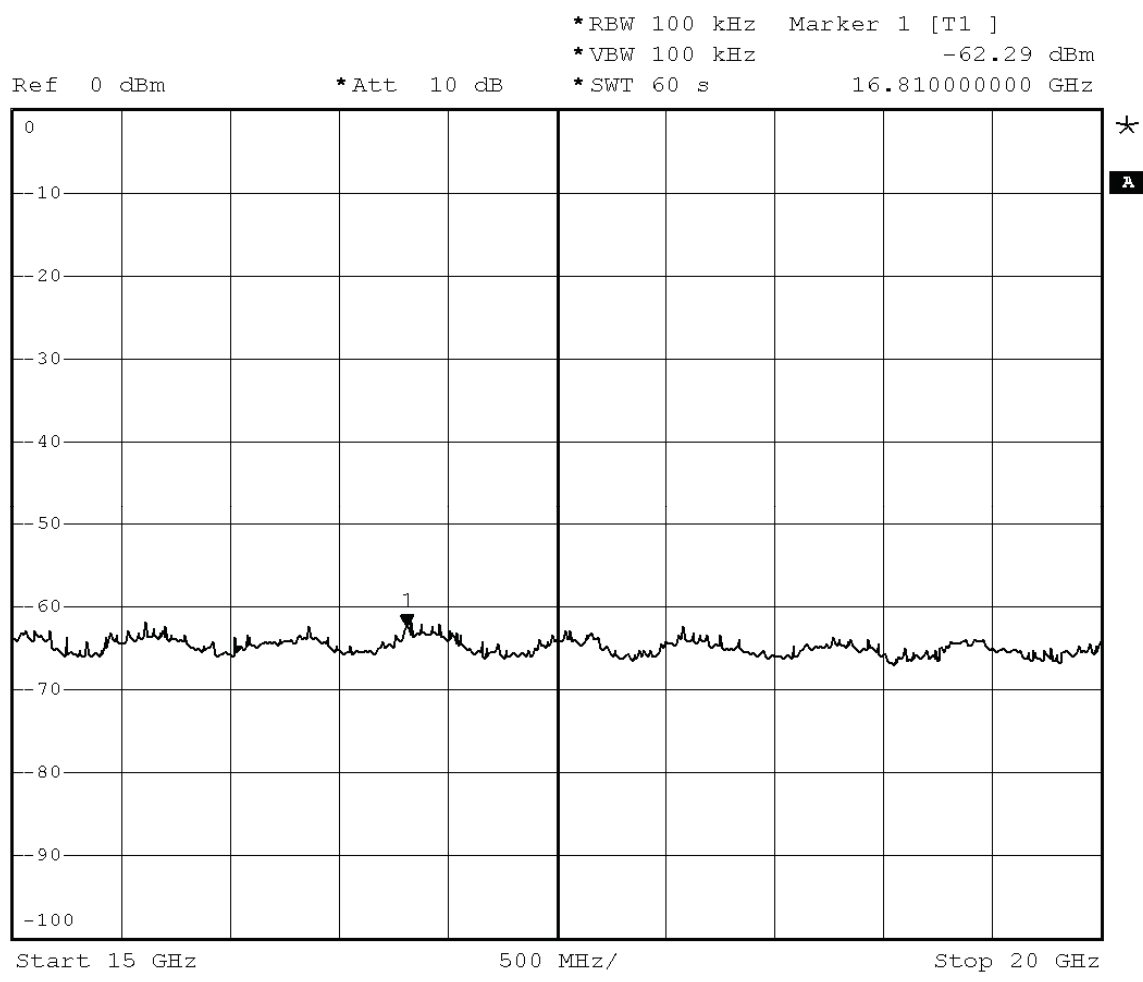


Figure 5.1.2.2-4: 800 nS Pulse, Spurious RF Output, 15 GHz to 20 GHz

5.1.2.3 Transmitter RF Leakage

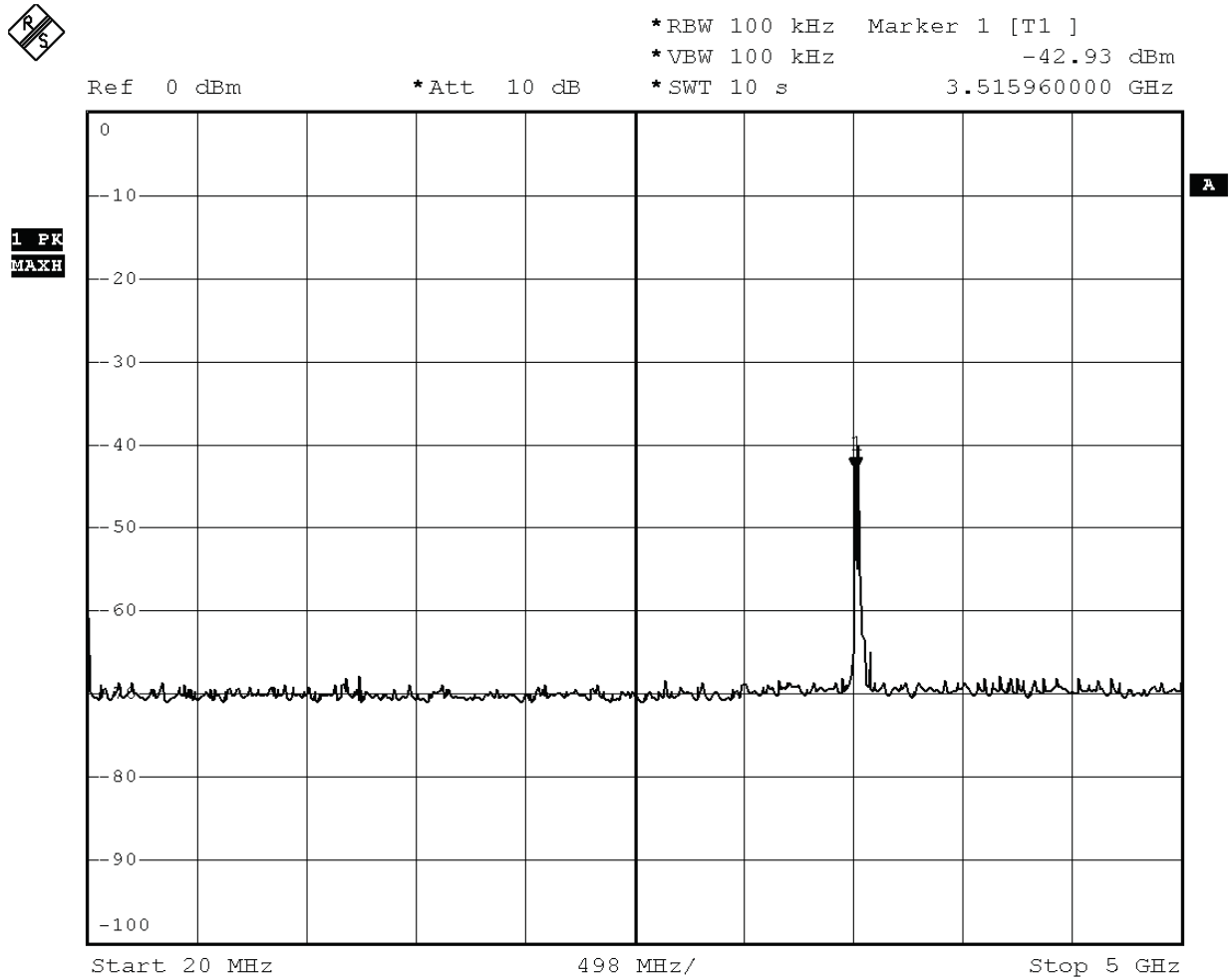


Figure 5.1.2.3-1: 800 nS Pulse, TX RF Leakage, 20 MHz to 5 GHz



Ref 0 dBm *Att 10 dB *RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -67.97 dBm
*SWT 10 s 5.850000000 GHz

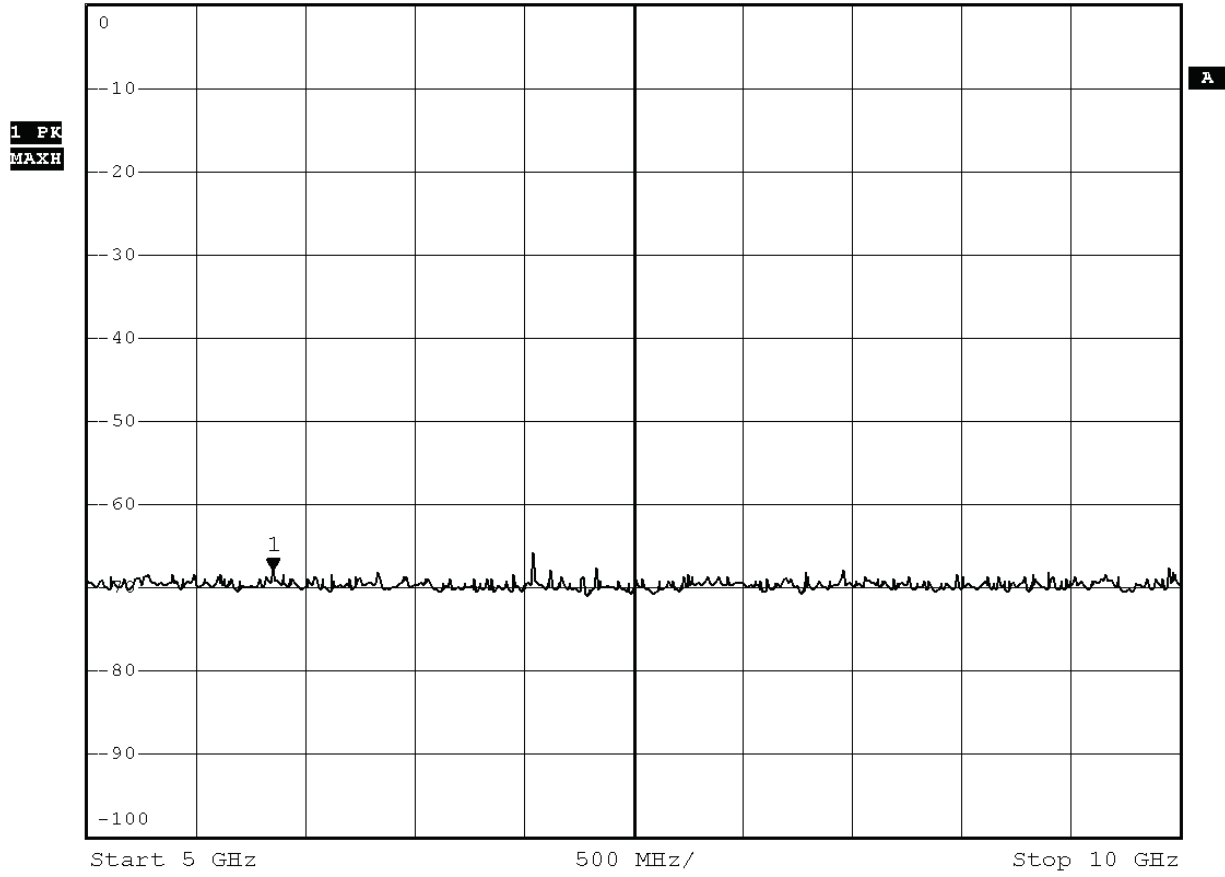


Figure 5.1.2.3-2: 800 nS Pulse, TX RF Leakage, 5 GHz to 10 GHz

